

Translation

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SF-973	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/011568	International filing date (day/month/year) 10 September 2003 (10.09.2003)	Priority date (day/month/year) 10 September 2002 (10.09.2002)
International Patent Classification (IPC) or national classification and IPC G01N 25/18, 27/18, B01D 53/94, F01N 3/08		
Applicant MITSUI MINING & SMELTING CO., LTD.		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 25 March 2004 (25.03.2004)	Date of completion of this report 22 September 2004 (22.09.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-16	YES
	Claims		NO
Inventive step (IS)	Claims	2, 9	YES
	Claims	1, 3-8, 10-16	NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

2. Citations and explanations

Claims 1, 3-5, 8, 10-12, 15 and 16

Document 1: JP 2001-20724 A (Isuzu Motors Ltd.), 23 January 2001, entire text, fig. 1-4

Document 2: JP 11-153561 A (Mitsui Mining & Smelting Co., Ltd.), 08 June 1999, entire text, fig. 1-15

Document 3: JP 3-262949 A (Matsushita Electric Ind. Co., Ltd.), 22 November 1991, entire text, fig. 1-4

Document 1 discloses a urea concentration identification system for identifying the concentration of urea in a urea solution, and indicates the reduction of the exhaust gas from a vehicle.

Document 2 discloses a fluid identification device, and indicates a fluid temperature sensor and a heater for the fluid identification sensor.

Document 3 also discloses a fluid identification device, and indicates the feature of heating a fluid to be identified, which has been temporarily retained, by applying a pulse voltage thereto for a predetermined period of time and then identifying the fluid by means of the voltage output differential, which corresponds to the

temperature differential between the initial temperature and the peak temperature.

The inventions that are disclosed in documents 1-3 all pertain to fluid identification devices; therefore, it would be obvious to a person skilled in the art to configure the inventions that are set forth in claims 1, 3-5, 8, 10-12, 15 and 16 by applying the features that are disclosed in documents 2-3 in the urea concentration identification system that is disclosed in document 1.

Claims 6, 7, 13 and 14

Document 1

Document 2

Document 3

Document 4: WO 01/44761 A (Mitsui Mining & Smelting Co., Ltd.), 21 June 2001, entire text, fig. 1-6

Document 4 discloses a fluid identification device, and indicates features such as bringing the heater and the sensor into contact with the fluid via a metal fin.

Claims 2 and 9

Documents 1-4 define the general state of the art in relation to fluid identification devices; however, the features pertaining to the voltage differential between the average initial voltage and the average peak voltage are not disclosed or suggested in any of the documents that are cited in the international search report.